

## CLAIMS

1. A method of determining the germination vigour and/or the storage capability of a seed batch, characterized in that it comprises quantifying, on a sample of seeds taken from said batch, the proteins recognized by anti-L-isoaspartyl methyltransferase antibodies directed against a region of said protein defined by the sequence (I): RYVPLTSRX<sub>1</sub>X<sub>2</sub>QLX<sub>3</sub> (SEQ ID NO: 1), in which X<sub>1</sub> represents E, V or S, X<sub>2</sub> represents A or E, and X<sub>3</sub> represents R, G or Q.
2. The method as claimed in claim 1, characterized in that the quantification of the L-isoaspartyl methyltransferase is carried out using an anti-L-isoaspartyl methyltransferase antibody chosen from:
  - an anti-L-isoaspartyl methyltransferase antibody directed against a region of said protein defined by the sequence (I);
  - an anti-L-isoaspartyl methyltransferase antibody directed against a region of said protein defined by the sequence (II): QX<sub>4</sub>LX<sub>5</sub>VX<sub>6</sub>DKX<sub>7</sub>X<sub>8</sub>DGSX<sub>9</sub>X<sub>10</sub>X<sub>11</sub> (SEQ ID NO: 2), in which X<sub>4</sub> represents D or E, X<sub>5</sub> represents Q or K, X<sub>6</sub> represents V or I, X<sub>7</sub> represents N or S, X<sub>8</sub> represents S, E or A, X<sub>9</sub> represents either a dipeptide chosen from IS, VS, VT and TS, or a peptide bond, X<sub>10</sub> represents I or V, and X<sub>11</sub> represents K, Q or R.
3. The method as claimed in claim 2, characterized in that use is made of an anti-L-isoaspartyl methyltransferase antibody chosen from:
  - an antibody directed against a peptide of sequence QDLQVVDKNSDGSVSIK (SEQ ID NO: 3);

- an antibody directed against a peptide of sequence RYVPLTSREAQLR (SEQ ID NO: 5).
- 4. The anti-L-isoaspartyl methyltransferase antibody as defined in either of claims 2 and 3.
- 5. A method of quantifying the L-isoaspartyl methyltransferase in plant material, characterized in that it comprises bringing said material into contact with an anti-L-isoaspartyl methyltransferase antibody as claimed in claim 4.
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- 15. The use of an anti-L-isoaspartyl methyltransferase antibody as claimed in claim 4, for determining the germination vigour and/or the storage capability of a seed batch.